

PROSTHETIC VALVE FOR TRANSLUMINAL DELIVERY

Abstract of the Disclosure

A prosthetic valve assembly for use in replacing a deficient native valve comprises a replacement valve supported on an expandable valve support. If desired, one or more anchors may be used. The valve support, which entirely supports the valve annulus, valve leaflets, and valve commissure points, is configured to be collapsible for transluminal delivery and expandable to contact the anatomical annulus of the native valve when the assembly is properly positioned. Portions of the valve support may expand to a preset diameter to maintain coaptivity of the replacement valve and to prevent occlusion of the coronary ostia. A radial restraint, comprising a wire, thread or cuff, may be used to ensure expansion does not exceed the preset diameter. The valve support may optionally comprise a drug elution component. The anchor engages the lumen wall when expanded and prevents substantial migration of the valve assembly when positioned in place. The prosthetic valve assembly is compressible about a catheter, and restrained from expanding by an outer sheath. The catheter may be inserted inside a lumen within the body, such as the femoral artery, and delivered to a desired location, such as the heart. A blood pump may be inserted into the catheter to ensure continued blood flow across the implantation site during implantation procedure. When the outer sheath is retracted, the prosthetic valve assembly expands to an expanded position such that the valve and valve support expand at the implantation site and the anchor engages the lumen wall. Insertion of the catheter may optionally be performed over a transseptally delivered guidewire that has been externalized through the arterial vasculature. Such a guidewire provide dual venous and arterial access to the implantation site and allows additional manipulation of the implantation site after arterial implantation of the prosthetic valve. Additional expansion stents may be delivered by venous access to the valve.